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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,630	12/23/2005	Kyouhiro Yoshida	20057-002US1 PCT-2004-008	8597
26211 7590 03/19/2008 FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER CHEN, XIAOLIANG	
			ART UNIT 2841	PAPER NUMBER
			MAIL DATE 03/19/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/562,630	Applicant(s) YOSHIDA, KYOUIHIRO	
	Examiner XIAOLIANG CHEN	Art Unit 2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2005 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9-17-07, 12-23-05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. The examiner agrees with the applicant's argument that the references of Maruyama et al. is not prior art under 35 U.S.C. 102(b) and the references of Asano et al. is not prior art under 35 U.S.C. 103(a) because of the PCT filing date.

Therefore, the rejections of claims 1-2 and 4-6 under 35 U.S.C. 102(b) have been withdrawn, and the rejection of claim 3 under 35 U.S.C. 103(a) involving Asano et al. has been withdrawn.

2. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruyama et al. (US20040208211) in view of Uchida (US20020109074).

Re claim 1, Maruyama et al. clearly show and disclose

A communication module comprising:

a semiconductor member (7, fig. 1B);

a printed circuit board (3, fig. 1B) on which said semiconductor member is mounted and to which said semiconductor member is electrically connected (fig. 1B);

a stem (1, fig. 1C) through which said board is inserted and to which said board is then fixed; and

a cap (11, fig. 1C) so disposed as to cover said semiconductor member.

Maruyama et al. does not disclose the printed circuit board being a flexible printed circuit board.

Uchida teaches a device wherein

the printed circuit board being a flexible printed circuit board (a flexible board [0336]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a flexible printed circuit board as taught by Uchida in the electronic device of Maruyama et al., for easier mounting the printed circuit board. (For example, it is also possible to bend the substrate itself 90 degrees and mount it. Uchida, paragraph [0337])

Re claim 2, Maruyama et al. clearly show and disclose

The communication module according to Claim 1, wherein the semiconductor member is at least one of a light emitting element (6, fig. 1C), a light receiving element (8) and an integrated circuit (33, fig. 3C).

Re claim 3, Maruyama et al. clearly show and disclose

The communication module according to Claim 1,

Maruyama et al. does not disclose wherein the flexible printed circuit board including a type of lines selected from among coplanar lines, micro-strip lines, and grounded coplanar lines.

Uchida teaches a device wherein the flexible printed circuit board includes a type of lines selected from among coplanar lines, micro-strip lines, and grounded coplanar lines (micro strip line [0336]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the flexible printed circuit board with the micro strip line as taught by Uchida in the electronic device of Maruyama et al., in order to increase the mounting area and provide EMI-free optical wiring of the flexible printed circuit board. (Uchida, paragraph [0337])

Re claim 4, Maruyama et al. clearly show and disclose

The communication module according to Claim 1, wherein a plurality of different flexible printed circuit boards (different wiring boards and layers in fig. 2 also could use the flexible printed circuit boards as in claim 1) are fixed to the stem.

Re claim 5, Maruyama et al. clearly show and disclose

The communication module according to Claim 1, wherein an end of the flexible printed circuit board(s) that protrudes from the stem has a connector (113, fig. 21B) that can connect to a subsequent-stage circuit board (400, fig. 22A).

Re claim 6, Maruyama et al. clearly show and disclose

The communication module according to Claim 1, wherein the flexible printed circuit board(s) exhibits a bent-shape (the flexible substrate 400 is previously bent in the trapezoidal shape for use [0108]) when in a plane.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US-20030001250 US-20020105279 US-20010024461 US-20020074157.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to XIAOLIANG CHEN whose telephone number is (571)272-9079. The examiner can normally be reached on 7:00-5:00 (EST), Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-2800, ext 31. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2859

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dean A. Reichard/
Supervisory Patent Examiner, Art Unit 2841

Xiaoliang Chen
Examiner
Art Unit 2841